CLAIMS:

1. A safety arrangement for detecting the position of an occupant (4) of a seat (1) in a motor vehicle, the seat being provided with a safety belt (9) and an associated retractor (10) for use by the occupant of the seat, there being a sensor (11) for measuring a parameter corresponding to the length of belt withdrawn from the retractor relative to a predetermined reference value, the safety arrangement also incorporating a seat position sensor (7) and a processor unit (8) to process signals from the two sensors to evaluate the position of the seat occupant, characterised in that the safety belt system (9) incorporates a buckle (13), the buckle (13) being provided with a sensor to indicate when the safety belt is buckled in position, the predetermined reference value being the minimum belt length remaining withdrawn from the retractor after the belt has been buckled up.

2. A safety arrangement according to Claim 1 wherein the processor unit (8) utilises signals from the seat position sensor (7) to determine the ordinary position of the front part of the chest bone of a seat occupant (4) relative to an air-bag (19), that position corresponding to the predetermined reference value of belt length.

3. A safety arrangement for detecting the position of an occupant (4) of a seat (1) in a motor vehicle having a fixed position, the seat being provided with a safety belt (1) and an associated retractor (10) for use by the occupant of the seat, there being a sensor for measuring a parameter corresponding to the length of belt withdrawn from the retractor relative to a predetermined reference value, the safety arrangement also incorporating a processor unit (8) to process signals from the sensor to evaluate the position of the seat occupant,

characterised in that the safety belt system (9) incorporates a buckle (13), the buckle (13) being provided with a sensor to indicate when the safety belt is buckled in position, the predetermined reference value being the minimum belt length remaining withdrawn from the retractor after the belt has been buckled up.

4. A safety arrangement according to Claim 3 wherein the processor unit (8), based on the position of the seat (1), determines the ordinary position of the front part of the chest bone of a seat occupant (4) relative to an air-bag, that position corresponding to the predetermined reference value of belt length.

5. A safety arrangement according to any one of the preceding Claims wherein the reference valve is continuously or repeatedly updated, and a new reference valve is stored whenever a new minimum belt length meaning withdrawing from the retractor (10), which is less than the current minimum length, is determined.

6. A safety arrangement according to any one of the preceding Claims wherein a measured change in the length of the belt withdrawn from the retractor (10), relative to the predetermined reference value is utilised, by the processor unit (8), to estimate the longitudinal change in position of the front part of the chest bone of the seat occupant (4).

7. A safety arrangement according to any one of the preceding Claims wherein the parameter that is measured is the extent of the angular rotation of the spool of the retractor (10).

8. A safety arrangement according to any one of the preceding Claims wherein the processor unit (8) is connected to control the performance of a load-limiter for the safety-belt.

9. A safety arrangement according to any one of the preceding Claims wherein the processor unit (8) is connected to an air-bag unit (19) positioned in front of the vehicle seat to control the mode of performance of the air-bag.

10. A safety arrangement according to Claim 9 wherein the processor unit (8)modifies the venting of the air-bag.

11. A safety arrangement according to Claim 9 wherein the processor unit (8) moderates deployment of the air-bag.

12. A safety arrangement according to Claim 9 wherein the processor unit (8) inhibits deployment of the air-bag.

13. A safety arrangement according to Claim 1 or any Claim dependent thereon wherein the processor unit (8) is configured to determine a new reference value whenever the seat (1) is moved after the predetermine reference value has been determined.

14. A safety arrangement according to Claim 13 wherein the new reference value is determined by determining the minimum length of belt withdrawn from the retractor after the seat (1) is moved, the processor being configured to process signals corresponding to the new minimum belt length and the new position of the seat.

15. A safety arrangement according to Claim 13 wherein the new reference value is determined by determining the change in the position of the seat (1) and modifying the original predetermined reference value.

16. A safety arrangement according to Claim 15 wherein the reference value is modified by a value corresponding to the distance of, and the direction of, the change in position of the seat.

17. A safety arrangement according to Claim 15 or 16 wherein subsequently a new reference value is determined by determining the minimum length of belt withdrawn from the retractor (10) and the position of the seat (4).